

## CLAIM AMENDMENTS

1 through 33 (canceled)

1           34. (New) MVA-BN as deposited at the European  
2 Collection of Animal Cell Cultures (ECACC) under No. V00083008  
3 comprising at least two foreign genes which are homologous in  
4 comparison to each other, wherein each of said genes is inserted  
5 into a different insertion site of the MVA-BN poxviral genome.

1           35. (New) A vaccine comprising MVA-BN as deposited at  
2 the European Collection of Animal Cell Cultures (ECACC) under No.  
3 V00083008 comprising at least two foreign genes which are  
4 homologous in comparison to each other, wherein each of said genes  
5 is inserted into a different insertion site of the MVA-BN poxviral  
6 genome.

1           36. (New) A pharmaceutical composition comprising MVA-BN  
2 as deposited at the European Collection of Animal Cell Cultures  
3 (ECACC) under No. V00083008 comprising at least two foreign genes  
4 which are homologous in comparison to each other, wherein each of  
5 said genes is inserted into a different insertion site of the MVA-  
6 BN poxviral genome and a pharmaceutically acceptable carrier,  
7 diluent, adjuvant and/or additive.

1           37. (New) A method for effecting an immune response in  
2 a living animal, including a human, comprising administering a  
3 therapeutically effective amount of MVA-BN as deposited at the  
4 European Collection of Animal Cell Cultures (ECACC) under No.  
5 V00083008, comprising at least two foreign genes which are  
6 homologous in comparison to each other, wherein each of said genes  
7 is inserted into a different insertion site of the MVA-BN poxviral  
8 genome, to the animal or human to be treated.

1           38. (New) An isolated cell comprising MVA-BN as  
2 deposited at the European Collection of Animal Cell Cultures  
3 (ECACC) under No. V00083008, comprising at least two foreign genes  
4 which are homologous in comparison to each other, wherein each of  
5 said genes is inserted into a different insertion site of the MVA-  
6 BN poxviral genome.

1           39. (New) A method for producing MVA-BN as deposited at  
2 the European Collection of Animal Cell Cultures (ECACC) under No.  
3 V00083008, comprising at least two foreign genes which are  
4 homologous in comparison to each other, wherein each of said genes  
5 is inserted into a different insertion site of the MVA-BN poxviral  
6 genome, comprising the steps of

- 7           - infecting a cell with MVA-BN as deposited at the  
8 European Collection of Animal Cell Cultures (ECACC) under  
9 No. V00083008;  
10          - transfecting the infected cell with a first vector

11 construct comprising a gene being heterologous to the MVA-BN  
12 poxviral genome, and a genomic poxvirus sequence capable of  
13 directing the integration of the heterologous gene into an  
14 insertion site of the MVA-BN poxviral genome;

15 - identifying, isolating and, optionally, purifying the  
16 generated recombinant poxvirus;

17 - repeating the above steps by using the recombinant  
18 poxvirus obtained from previous steps for infecting the cell and an  
19 additional vector construct comprising a further gene being  
20 heterologous to the poxviral genome and homologous to the gene of  
21 the first vector construct.

1 40. (New) A method for detecting cells, cell lysates or  
2 fractions thereof infected with MVA-BN as deposited at the European  
3 Collection of Animal Cell Cultures (ECACC) under No. V00083008,  
4 comprising at least two foreign genes which are homologous in  
5 comparison to each other, wherein each of said genes is inserted  
6 into a different insertion site of the MVA-BN poxviral genome,  
7 which comprises the steps of:

8 (a) contacting the cells or the lysates or factions  
9 thereof with a probe containing a DNA sequence, wherein the DNA  
10 sequence comprises the at least two foreign genes, which are  
11 homologous in comparison to each other, and at least a part of the  
12 sequence of the MVA-BN poxviral genome as deposited at the European  
13 Collection of Animal Cell Cultures (ECACC) under No. V00083008, to

14 permit hybridization between the homologous genes in the probe and  
15 the homologous genes from any of the MVA-BN as deposited at the  
16 European Collection of Animal Cell Cultures (ECACC) under No.  
17 V00083008, comprising at least two foreign genes which are  
18 homologous in comparison to each other, wherein each of said genes  
19 is inserted into a different insertion site of the MVA-BN poxviral  
20 genome, contained in the cells;

21 (b) determining whether hybridization has occurred  
22 between the DNA sequence in the probe and DNA in any MVA-BN as  
23 deposited at the European Collection of Animal Cell Cultures  
24 (ECACC) under No. V00083008, comprising at least two foreign genes  
25 which are homologous in comparison to each other, wherein each of  
26 said genes is inserted into a different insertion site of the MVA-  
27 BN poxviral genome, in the cells, cell lysates or fractions  
28 thereof; and

29 (c) relating the information obtained according to step  
30 (b) to determine the presence of the MVA-BN as deposited at the  
31 European Collection of Animal Cell Cultures (ECACC) under No.  
32 V00083008, comprising at least two foreign genes which are  
33 homologous in comparison to each other, wherein each of said genes  
34 is inserted into a different insertion site of the MVA-BN poxviral  
35 genome, in the cells, cell lysates or fractions thereof.

1           41. (New) A method for identifying in a biological  
2 sample MVA-BN as deposited at the European Collection of Animal  
3 Cell Cultures (ECACC) under No. V00083008, comprising at least two  
4 foreign genes which are homologous in comparison to each other,  
5 wherein each of said genes is inserted into a different insertion  
6 site of the MVA poxviral genome, which comprises the steps of:

7           (a) contacting the sample with a probe containing a DNA  
8 sequence, wherein the DNA sequence comprises the at least two  
9 foreign genes, which are homologous in comparison to each other,  
10 and at least a part of the sequence of the MVA-BN poxviral genome  
11 to permit hybridization between the homologous genes in the probe  
12 and the homologous genes from any MVA-BN as deposited at the  
13 European Collection of Animal Cell Cultures (ECACC) under No.  
14 V00083008, contained in the sample;

15           (b) determining whether hybridization has occurred  
16 between the DNA sequence in the probe and the DNA in any MVA-BN as  
17 deposited at the European Collection of Animal Cell Cultures  
18 (ECACC) under No. V00083008, comprising at least two foreign genes  
19 which are homologous in comparison to each other, wherein each of  
20 said genes is inserted into a different insertion site of the MVA-  
21 BN poxviral genome, contained in the sample; and

22           (c) relating the information obtained according to step  
23 (b) to determine the presence of the MVA-BN as deposited at the  
24 European Collection of Animal Cell Cultures (ECACC) under No.

25 V00083008, comprising at least two foreign genes which are  
26 homologous in comparison to each other, wherein each of said genes  
27 is inserted into a different insertion site of the MVA-BN poxviral  
28 genome, in the sample.

1 42. (New) A method for detecting cells, cell lysates or  
2 fractions thereof infected with MVA-BN as deposited at the European  
3 Collection of Animal Cell Cultures (ECACC) under No. V00083008,  
4 comprising at least two foreign genes which are homologous in  
5 comparison to each other, wherein each of said genes is inserted  
6 into a different insertion site of the MVA poxviral genome, which  
7 comprises the steps of:

8 (a) contacting the cells, cell lysates, or fractions  
9 thereof with DNA primers selectively amplifying the foreign genes;

10 (b) determining whether hybridization has occurred  
11 between the DNA primer and the DNA in the any MVA-BN as deposited  
12 at the European Collection of Animal Cell Cultures (ECACC) under  
13 No. V00083008, comprising at least two foreign genes which are  
14 homologous in comparison to each other, wherein each of said genes  
15 is inserted into a different insertion site of the MVA poxviral  
16 genome, contained in the cells, cell lysates or fractions thereof  
17 and

18 (c) relating the information obtained according to step  
19 (b) to determine the presence of the MVA-BN as deposited at the  
20 European Collection of Animal Cell Cultures (ECACC) under No.  
21 V00083008, comprising at least two foreign genes which are  
22 homologous in comparison to each other, wherein each of said genes  
23 is inserted into a different insertion site of the MVA poxviral  
24 genome, in the cells, cell lysates or fractions thereof.

1 43. (New) The method according to claim 42, wherein the  
2 cells, cell lysates or fractions thereof are, in addition or as an  
3 alternative to step (a), contacted with DNA primers selectively  
4 binding to the flanking sequences related to the insertion sites of  
5 the foreign genes.

1 44. (New) A method for identifying in a biological  
2 sample an MVA-BN recombinant poxvirus as deposited at the European  
3 Collection of Animal Cell Cultures (ECACC) under No. V00083008,  
4 comprising at least two foreign genes which are homologous in  
5 comparison to each other, wherein each of said genes is inserted  
6 into a different insertion site of the MVA-BN poxviral genome,  
7 which comprises the steps of:

8 (a) contacting the sample with DNA primers exclusively  
9 amplifying the foreign genes;

10 (b) determining whether hybridization has occurred  
11 between the DNA primer and the DNA in any MVA-BN as deposited at

12 the European Collection of Animal Cell Cultures (ECACC) under No.  
13 V00083008, comprising at least two foreign genes which are  
14 homologous in comparison to each other, wherein each of said genes  
15 is inserted into a different insertion site of the MVA poxviral  
16 genome in the sample; and

17 (c) relating the information obtained according to step  
18 (b) to determine the presence of the MVA-BN as deposited at the  
19 European Collection of Animal Cell Cultures (ECACC) under No.  
20 V00083008, comprising at least two foreign genes which are  
21 homologous in comparison to each other, wherein each of said genes  
22 is inserted into a different insertion site of the MVA poxviral  
23 genome, in the sample.

1 45. (New) The method according to claim 44, wherein the  
2 sample is, in addition or as an alternative to step (a), contacted  
3 with DNA primers selectively binding to the flanking sequences  
4 related to the insertion sites of the foreign genes.